CORE
Metadata, citation and similar papers at core.ac.uk
Provided by OpenCommons at University of Connecticut

University of Connecticut
OpenCommons@UConn

Master's Theses
University of Connecticut Graduate School

1-30-2017

Investigating Trends in Poly-victimization among CPS Involved Children and Families: A Study of Allegations

Nicole A. Melita
University of Connecticut - Storrs, nicole.melita@uconn.edu

Recommended Citation
Melita, Nicole A., "Investigating Trends in Poly-victimization among CPS Involved Children and Families: A Study of Allegations" (2017). *Master's Theses*. 1049.
https://opencommons.uconn.edu/gs_theses/1049

This work is brought to you for free and open access by the University of Connecticut Graduate School at OpenCommons@UConn. It has been accepted for inclusion in Master's Theses by an authorized administrator of OpenCommons@UConn. For more information, please contact opencommons@uconn.edu.

Investigating Trends in Poly-victimization among CPS Involved Children and Families:

A Study of Allegations

Nicole Ann Melita
B.A., Hofstra University, 2014

A Thesis
Submitted in Partial Fulfillment of the
Requirements for the Degree on
Master of Arts
At the
University of Connecticut
2017

Copyright by

Nicole Ann Melita

2017

APPROVAL PAGE

Master of Arts Thesis

Investigating Trends in Poly-victimization among CPS Involved Children and Families:
A Study of Allegations

Presented by

Nicole Ann Melita, B.A.

Major Advisor _____
JoAnn Robinson, PhD

Associate Advisor _____
Preston Britner, PhD

Associate Advisor _____
Damion Grasso, PhD

University of Connecticut 2017

Investigating Trends in Poly-victimization among CPS Involved Children and Families: A Study of Allegations

Abstract

Children involved with child protective services (CPS) face high risk for significant mental health impairment and poor outcomes, which recent work suggests can be influenced by poly-victimization, or exposure to multiple forms of victimization (Grasso, Greene, & Ford, 2013). The present chart review study was intended to examine the incidence of trends in poly-victimization, child mental health outcomes, and caregiver impairment among a sample of randomly selected families in the state of Connecticut (*N*=100) that were referred to CPS during a 12-month period. Allegations were examined collectively regardless of allegation disposition. An extensive survey tool was created by the research team to extract and code information from CPS charts, including the types and severity of victimization for each child (N=238). Cluster analyses revealed four significant victimization patterns. Types of caregiver impairment were not significant in predicting poly-victimization clusters. Results demonstrated distinctive demographic characteristics across poly-victimization subgroups such as age and family size. Significant differences in children's mental health outcomes were revealed across subgroups, suggesting a positive association between poly-victimization levels and the total number of psychiatric diagnoses. Implications for informing and refining current trauma interventions are discussed with a particular emphasis on treating poly-victims.

Investigating Trends in Poly-victimization Among CPS- Involved Children and Families: A Study of Allegations

Introduction

Trauma exposure during childhood has become a major public health concern with potentially lifelong mental and physical health consequences (Philippe, Laventure, Beaulieu-Pelletier, Lecours, & Lekes, 2011). In fact, a large body of research demonstrates that about 90% of children experience at least one form of traumatic experience in their lives (Heinzelmann & Gill, 2013; Horner, 2015). However, there is reason to believe that children who suffer one form of victimization are more likely to suffer from others (Saunders, 2003). Studies have shown that nearly a third of U.S. youth have experienced repeated exposure or multiple types of events in their lifetime (Briggs et al., 2013). Given the frequent nature of exposure to multiple trauma types, Finkelhor, Ormrod, and Turner (2007) designated "poly-victimization" as a term to accurately separate those with this experience from those that were exposed to a single type. This concept is intended to reflect the cumulative exposure to multiple forms of victimization experienced throughout a lifetime (Cyr, Clément, & Chamberland, 2014). It's important to consider cumulative trauma exposure as it can significantly influence the occurrence of symptomology; failure to do so may lead to an inaccurate evaluation of developmental outcomes as well as an inaccurate depiction of a child's involvement trajectory with child protective services (CPS; Herrenkohl & Herrenkohl, 2009).

Children become involved with child protective services (CPS) due to at least one allegation that he or she has been exposed to some type of maltreatment. According to the U.S. Department of Health and Human Services, at least one million children experience substantiated

abuse each year in the United States (U.S. Department of Health and Human Services, 2007; D'Andrea, Ford, Stolbach, Spinazzola, & Van der Kolk, 2012). Lately, more research has highlighted similarities seen across families of children that become involved with CPS and has even produced an increased awareness of the relationship between CPS involvement and children's mental health trajectories. However, little is known about poly-victimization and what role it plays within that relationship. The current study examines trends in patterns of alleged victimizations among CPS-involved children, including child demographics, psychiatric outcomes and forms of caregiver impairment. In the following literature review, a framework is offered that defines poly-victimization and the critical role of cumulative victimization types when considering mental health risk. The discussion will then expand on risk factors that potentially serve as pathways to poly-victimization, providing a rationale for the present study's investigation of risk and prediction. However, justification for inclusion and examination of both substantiated and unsubstantiated allegations must first be provided.

Child Protective Services and Substantiation Status

Though universal parameters established by the government ultimately determine what warrants CPS investigation, there are often significant differences in factors that influence the resulting substantiation decision across each state. In a national study of CPS (Fluke, Harper, Parry, & Yuan, 2003) that examined substantiation disposition definitions across states, responses mainly fell into a select three categories: *substantiated, unsubstantiated, and indicated*. Nearly all 50 states had clearly defined a substantiated category. Approximately a quarter of the states defined *indicated* as a category that referred to cases with some reason to believe there is risk for victimization, but did not meet the evidentiary requirements for *substantiatio*n. However,

many states differed in their definitions of an *unsubstantiated* category. Specifically, half of the states defined these cases as failing to meet the standard of evidence for *substantiation*, and the other half categorized them as cases that lack sufficient evidence (Fuller & Niento, 2009). Despite these known discrepancies, many studies have focused primarily on substantiated allegations because there is evidence to support its occurrence (Bae, Solomon, & Gelles, 2007). Concerned about the increasing rate of repeated reports and unsubstantiated allegations, Wolock, Sherman, Feldman, and Metzger (2001) investigated the impact of general case characteristics on number of reports and the substantiation status of those reports from a previous longitudinal investigation. Subjects included 238 families who had been reported to New Jersey CPS between December 1988 and October 1989, whose cases were closed after investigation. Results demonstrated no significant differences in risk factors or likelihood of victimization re-occurrence among children with unsubstantiated allegations and those with substantiated allegations. The same results were upheld when controlling for potential moderating variables. This supports the argument that using substantiation status as a key criterion for research investigation, may cause seriously endangered children to be overlooked.

Substantiation disposition at the conclusion of a CPS investigation not only has a strong influence on accuracy in research, but also has important implications for families (Fuller & Nieto, 2009). If an allegation is not substantiated, children and families are less likely to be referred to critical services. In fact, data from the National Child Abuse and Neglect Data System (NCANDS) revealed that during 2006, nearly 60% of children that were deemed victims of substantiated allegations received post-investigation services, compared to approximately 30% of those considered non-victims of unsubstantiated allegations (U.S. Department of Health and

Human Services, 2008). This poses great risk to children deemed non-victims by CPS, especially when considering what this could mean for future trajectories and outcomes.

In research studies examining only substantiated allegations may jeopardize the accuracy of trauma exposure profiles. This can become problematic when considering the number of allegations though they did not present with enough evidence to be substantiated. In that case, studies that examined only substantiated allegations lose potentially critical trauma exposure information. For that reason, the present study acknowledges that not all allegations will be substantiated and will thus examine all allegations.

Poly-victimization

When considering the trauma histories of CPS-involved children, it is rare to see a child experience a single traumatic event as they are more likely to have experienced several episodes of traumatic exposure (Kessler, 2000; Cloitre et al., 2009). However, types of victimization are often studied in isolation. This can be problematic as it may provide a misleading understanding of a child's presented symptomology (Adams et al., 2016; Kazdin, 2011). The term poly-victimization helps to recognize the cumulative effect of victimization. As an applied model, however, poly-victimization identifies a separate group of children who have experienced different types of victimization cumulatively, rather than focusing on the influence from a single type (Finkelhor, Ormrod, & Turner, 2007; Guerra, Pereda, Guilera, & Abad, 2016). The poly-victimization model differs from others in that it emphasizes non-specificity of experiences over a lifetime rather than focusing solely on a single type (Gustaffon, Nilsson, & Syedin, 2009). Having a more holistic view of trauma exposure can play a critical role when trying to identify pathways to adjustment or maladjustment following trauma exposure (Gustaffon, et al., 2009).

Due to this notion, more studies have incorporated a poly-victimization model that identifies and distinguishes youth who have experienced multiple different types of victimization compared to both youth who have been victims of a single trauma type and those without any type of exposure at all (Finkelhor et al., 2009). Growing evidence has supported this type of between-groups distinction as results continue to demonstrate that, when compared to youth with history of a single victimization type, youth with multiple victimization types are at greater risk for both subsequent victimization and cumulative impairment (Briggs et al., 2013).

Finkelhor and colleagues (2007) further examined poly-victimization in two annual waves of data from the Developmental Victimization Survey, a longitudinal study that was intended to assess types of childhood victimization and psychological distress across a range of demographics and developmental stages. A national sample of children between the ages of 2 and 17 were recruited by a random digit dial (RDD) telephone survey design in which all data were collected through phone interviews. Interviews were conducted approximately one year apart with both primary caretakers and the children of interest about a comprehensive range of 33 types of victimization experienced either in the previous year or at any point in their lives. Surprisingly, nearly 80% of the sample reported at least one type of lifetime victimization while half experienced two or more different kinds of victimization over the course of a single year. Results demonstrate the significant difference in self- report when asked about victimization over the past year or a lifetime, where the percentage reporting any victimization increased from 69.3% for past year to 79.6% for lifetime and the average number of victimization types increased from 2.4 to 3.7. As validated from this study, lifetime victimization presents a more complete picture of a child's victimization profile, which can ultimately improve the accuracy of

further mental health evaluation. This is particularly important when considering a sample of CPS-involved children that are likely to have a history of allegations in their record.

Other studies of lifetime victimization have practiced a similar approach in the examination of poly-victimization but with a different population sample. Hickman, Jaycox, Setodji, Kofner, Schultz, Barnes-Proby, & Harris (2013) conducted a study of total lifetime victimization with a sample of children who had been exposed to at least one incident of violence in their lifetime. Children up to five years of age were recruited from one of nine Safe Start Promising Approaches (SSPA) intervention sites, an intervention that was intended to help children and families who had been exposed to violence. Data were collected through interviews that involved a battery of standardized assessments measuring child internalizing and externalizing behavior problems, child trauma symptoms, and parenting stress. Caregivers reported that children were exposed to a lifetime victimization of nearly 15 incidents on average (SD = 19.47). Lifetime victimization was limited to one type of victimization for about 44% of children, whereas 56% had been exposed to more than one victimization type in their lifetime.

Whereas results from this study support the notion that lifetime victimization is a significant predictor in various components of child symptomology evaluation, they also offer an interesting element to the suggested model when examining poly-victimization. Unlike the previously described study (Finkelhor et al., 2009) that found significant results when using a weighted lifetime victimization sum, Hickman and colleagues (2013) also employed a category-defined measure of poly-victimization. In doing so, differences in predictor influence were measured separately for each type of victimization as well as collectively in a poly-victimization variable. However, results showed that no single category of exposure independently influenced

the variables of interest. In other words, poly-victimization was consistently shown to be a significant predictor of the measured symptomology.

These results align closely with most evidence, suggesting that youth who have experienced multiple victimization types demonstrate more severe trauma-related psychological difficulties (Chasson, Mychailyszyn, Vincent, & Harris, 2013, Finkelhor, Ormrod, Turner, & Hamby, 2005; Hébert, et al., 2006). Therefore it is necessary to examine poly-victimization and the cumulative influence it can have on mental health risk.

Poly-victimization and Increased Mental Health Risk

Exposure to victimization places the child at risk for potentially lifelong mental health challenges, as it has the ability to create a lifetime vulnerability to stress (Colman, et al., 2013). Thus it is safe to assume that, when exposed to multiple types of victimization, a positive relationship between poly-victimization and more complex mental health outcomes is likely to develop. Studies that have accounted for lifetime victimization have found similar results when examining the frequency of psychiatric diagnoses, regardless of the sample that was employed. These studies have identified significant associations with depression (Duncan, Saunders, Kilpatrick, Hanson, & Resnick, 1997), anxiety disorders (Boney-McCoy & Finkelhor, 1996; Cohen et al., 2001), higher rates of PTSD (Cloitre et al., 2009; Ballard et al, 2015), aggressive behavior (Caspi et al., 2002; Jaffee, Caspi, Moffitt, & Taylor, 2004; Shonk & Cicchetti, 2001), and impairment in developmental processes related to emotion regulation and skills necessary for interpersonal behaviors (Cloitre et al., 2009).

In a study by Briere, Kaltman, and Green (2008), exposure to multiple victimization types and heightened mental health challenges was a common theme across the sample. Women

in their second year of college (N= 2,453) were recruited from six different college campuses in the Washington, DC area to complete a cross-sectional study of trauma exposure and related PTSD symptomatology. Data was collected from participants at a single time point, comparing symptomatology across 3 participant subgroups: those with no trauma history, exposure to one trauma, and exposure to multiple traumas. In this study, more than half (56%, *N*= 696) of the sample reported exposure to multiple traumas, ranging from 2 to 7 or 8 different trauma types. Results demonstrated a linear relationship between the number of different trauma types experienced and symptom complexity, or the total number of PTSD symptoms reported. This not only suggests a positive relationship between poly-victimization and mental health outcomes, but also sheds light on the potential of increased symptomology as exposure types accumulate over time.

Some large-scale studies of childhood victimization have identified a dose-response relationship between number of victimization types experienced and the likelihood of experiencing a variety of mental health challenges (Edwards, Holden, Felitti, & Anda, 2003; Edwards, Anda, Felitti, & Dube, 2004; Klest, 2012). This was true for a study conducted by Alvarez-Lister, Pereda, Abad, Guilera, and GreVia (2013), which examined accumulated victimization types and psychopathology symptoms among a clinical sample of adolescent outpatients (*N*=132) from various mental health centers in Spain. Each participant completed a battery of self-report psychological tests for demographic characteristics, symptoms of psychopathology, and victimization experiences. Cluster analysis identified a subgroup of polyvictims (n = 17) with an average lifetime victimization of 14 different incidents. This subgroup presented significantly worse psychological impairment and more externalizing and internalizing symptoms in comparison to all other subgroups. Like other studies of this kind,

these results confirm that the accumulation of victimization experiences increases the risk of psychological impairment in younger populations (Alvarez-Lister et al., 2013).

Others studies have found that the total number of victimization types significantly predicted symptom severity and disorder co-occurrence, particularly with PTSD and depression (Adams et al., 2015). In fact, poly-victimization even predicted PTSD and depression symptoms better than sums of single trauma exposure types (Adams et al., 2015). Research has also demonstrated a reciprocal relationship in that psychological distress and psychiatric diagnosis are also predictive of child victimization (Cuevas, Finkelhor, Clifford, Ormrod, & Turner, 2010; Cuevas, Finkelhor, Ormrod, & Turner, 2009), indicating that developed symptomology following victimization may increase his or her risk of being chronically victimized and developing further problems (Cyr, Clément, & Chamberland, 2014).

Cuevas and colleagues (2010) analyzed longitudinal data from the Developmental Victimization Survey (Finkelhor et al., 2007) to examine the reciprocal relationship between psychiatric diagnoses and chronic victimization. This particular study analyzed data from a subsample (N=1467) that experienced at least one type of victimization during the first wave of data collection. Results demonstrated a high re-victimization rate, where psychological distress noted during wave 1 of data collection uniquely predicted subsequent overall re-victimization and different forms of victimization including conventional crime, maltreatment, peer or sibling victimization, sexual victimization, and witnessed victimization. Further analyses confirmed that psychological distress still predicted subsequent victimization even while controlling for demographic variables and prior victimization. Subsequent victimization during the second wave of data collection was also associated with several family characteristics such as being in a violent or disruptive environment, alcohol abuse, imprisonment, and parental unemployment.

These results support the notion that the same symptomatology that presented as a result of victimization can also serve as a risk for future victimization.

Based on the current literature, it can be assumed that poly-victims are likely to experience victimization across contexts whether it be at school, home, and within their neighborhoods and communities. For these children, victimization is not just a set of experiences but more so a life circumstance (Cuevas et al., 2010). Victimization spread across contexts in a child's life provides a greater risk of damaging his or her potential for resiliency and may influence deficits in social and personal resources that would normally buffer the negative effects of victimization (Turner, Finkelhor, & Ormrod, 2010a). With that said, it is important to recognize that children will respond differently through means of resilience and coping mechanisms, which then influences the degree of mental health symptoms a child may experience.

Hagenaars, Fisch, and van Minnen (2011) examined the effect and frequency of trauma exposure in a sample of children who experienced either one or multiple traumas. Results demonstrated that children who experienced multiple traumas showed increased negative expectations about the world, more self-directed anger, and greater use of avoidance-related strategies such as dissociation in stressful situations compared to children who experienced a single trauma. Additionally, children who experienced multiple traumas were more likely to adopt distrust as a general attitude because their experiences have shown that the world and the actions of our population are uncontrollable, unpredictable and thus considered dangerous, where they cannot be trusted (Hagenaars et al., 2011). These results provide a clear example of the potential influences of poly-victimization on a child's ability to be resilient and cope with

victimization experiences. Still, it is crucial to consider the influence of a child's environment, support system, and existing adversities when evaluating his or her response to victimization.

Risk Factors as Pathways to Poly-victimization

There are a variety of risk factors that both increase the likelihood that one will be victimized as well as the degree to which effects may persist. These are typically the same across victimization types but can differ across contexts, whether it's from within an immediate environment, a familial relationship or within a neighborhood setting (Finkelhor et al., 2007). Such risk factors typically include low socioeconomic status (Adams et al., 2015; Klest, 2012; Simons, Wurtele, & Heil, 2002), parental psychopathology, and dysfunctional family relationships (Bücker et al., 2012).

When investigating poly-victimization and socioeconomic status, Adams and colleagues (2015) first analyzed income as a moderator between poly-victimization and mental health symptoms. Results demonstrated that poly-victimization predicted mental health symptoms in low-income households and more specifically, it predicted depression and PTSD in low-resource environments. One explanation can be that being in a low-resource environment may be more stressful for caregivers, which in turn, may influence the amount and quality of social support they are providing to their child (Adams et al., 2015). Moreover, families with lower resources may also have limited access to mental health services.

As examined in the current study, characteristics of caregiver impairment such as a history of psychopathology and substance abuse (Ballard et al., 2015; Finkelhor et al., 2007; Walsh et al. 2003) have shown to be significant predictors of poly-victimization. Parental psychopathology and dysfunctional family relationships put the child at risk of being victimized

as the child becomes more vulnerable to behavioral or emotional outbursts. Children have limited coping skills, strategies, and psychological defenses and are thus more dependent on the parents or caretakers in their lives (Marsh, 2011).

In support of these risk factors, Ford and colleagues (2011) distinguished four pathways they have found in repeated studies of poly-victimization: residing in a dangerous community, living in a high-risk family, living within an unstable family environment, and having emotional challenges that influence risk behavior and the capacity to protect oneself (Finkelhor et al., 2007). Living in a community where violence exposure is prevalent places children at risk for assault and witnessing community violence first hand. It also increases the likelihood that a child experiences violence, neglect, or abuse within the home (Farver, Xu, Eppe, Fernandez, & Schwartz, 2005). This may be caused by constant violence exposure in that it provides families with the idea that it's normal and expected within the home. Likewise, living in a violent home environment further increases children's risks of continued abuse and neglect and potentially severe psychiatric diagnoses (Hazen, Connelly, Kelleher, Barth, & Landsverk, 2006). In nonviolent families characterized by constant conflict, addiction, or mental illness, children typically do not receive the protection, guidance, and monitoring that are necessary to prevent them from exposure to neglect, accidents, and community violence (Afifi, Brownridge, Macmillan, & Sareen, 2010; Ford et al., 2011). Similarly, studies have shown that exposure to community and home violence during childhood is associated with risk of re-victimization and psychosocial distress or impairment (Ford, Gagnon, Connor, & Pearson, 2011; Margolin & Gordis, 2000; Margolin & Vickerman, 2007; Tolan et al., 2006; Wolfe, Crooks, Vivien, McIntyre-Smith, & Jaffe, 2003; Zinzow & Jackson, 2009).

Other studies examining poly-victimization have more recently identified living in a single parent or stepparent household (Cyr et al., 2014), race (Adams et al., 2015), and gender (Ford et al., 2009) as additional potential risk factors for both re-victimization and adverse outcomes. Cyr and colleagues (2014) found that living in a single or step-parent family significantly predicted depressive and anger symptoms for children, even when controlling for poly-victimization and separate victimization categories.

Evidence supporting race and gender as risk factors, however, has been somewhat mixed. Some research posits that being of a nonwhite ethnicity increases vulnerability to poly-victimization (Ford et al., 2010), while others have found no significant differences (Finkelhor et al., 2007). Adams and colleagues (2016) suggest that these discrepancies may be explained by variation in the way ethnicity was both operationalized and analyzed. Instead of serving as a risk factor for poly-victimization, some studies have identified gender and race as potential risk factors specifically for internalizing and externalizing disorders when faced with multiple victimization types (Ford et al., 2009). Other studies found that being male increased the risk for physical assault and witnessing violence in the community while being female increased the risk of sexual victimization (Briggs et al., 2013; Foster, Kuperminc, & Price, 2004). ; Hanson et al., 2008) among a sample of adolescents. Given the nature of adversities commonly measured among poly-victimized youth, the present study will examine basic demographics and characteristics of caregiver impairment.

The Present Study

Having already identified a strong relationship between poly-victimization and both mental health problems and psychological distress, Ford, Wasser, and Connor (2011) emphasize the importance of identifying distinct subgroups of poly-victims to further examine the

relationship with mental health problems or psychiatric disorders. The purpose of the present study was to examine family characteristics, victimization histories, and psychiatric diagnoses from a sample of CPS-involved children to inform conclusions about the likelihood of poly-victimization among the larger CPS population. Based on the current literature, we examined predictors, types and outcomes of poly-victimization through addressing the following research questions: (a) how many children within the collected sample have experienced poly-victimization, and can significant subgroups be created to inform levels of poly-victimization? (b) Are there distinctive characteristics seen across subgroups of poly-victimized children (i.e. child age at index allegation, family size, and mental health outcomes)? (c) Do forms of caregiver impairment function as potential pathways to poly-victimization?

Method

Participants

Data were collected through chart review of 100 closed CPS files, one file for each family, at two Department of Children and Families (DCF) locations in Northern Connecticut following a protocol approved by the University of Connecticut Health Center Institutional Review Board and Department of Children and Families Institutional Review Board. Families were identified by DCF LINK IDs that were assigned upon initial CPS involvement, eliminating the ability to link personal data and remaining confidential to research staff. Each file provided necessary documentation for all allegations in chronological order.

Exclusion criteria required that only closed cases be included in order to collect strictly retrospective data. For the present study, closed cases are defined as cases that no longer reflect any kind of involvement with CPS. This does not involve any differentiation between substantiated and unsubstantiated allegations as both types are reviewed in the present study.

Only data from families that had at least one documented allegation between August 1st, 2013 and July 31st, 2014, closed by July 31st, 2015, were included in the study. Particularly, families with an allegation during that specified time period which closed by July 31st, 2015 were equally qualified for random selection for review, despite substantiation status. This window of time was intended to be narrow the high number of cases that remain open or re-open at any given moment. It is also important to emphasize that there was no cap on the inclusion time period for counting and analyzing additional allegations before the case was closed. If the same family was selected twice because they experienced two or more allegations within that year, the selection was discarded and a new one was made. New selections were also made if a case was sealed, whether it was due to being a high profile case or a member of DCF employees' families. This instance occurred less than 10 times during the course of data collection.

It is important to differentiate the types and levels of data that were analyzed for the present study. Data were collected for all children within each selected family, ranging from 1 to 7 children per family unit. Specifically, 100 CPS files were reviewed, and data were collected for a total of 238 children. Participants in the present study were identified at the child level rather than as a family unit. That means data were transposed in order to run analyses across child participants rather than families. Forms of caregiver impairment and parent demographics, however, were only measured for the mother figure of each family. For that reason, this data in particular was measured and analyzed by family unit (N=100).

Allegations. Each allegation was recorded through the extraction tool by incorporating a list of victimization types that are typically cited by DCF staff in LINK, the department's confidential database. An index allegation was randomly selected between August 1st, 2013 and

July 31st, 2014 and served as the primary allegation for each chart. This means that the randomly generated index allegation would be the first allegation to be reviewed.

Upon initial assessment, each allegation is either assigned to Family Assessment Response (FAR) or investigation. Through appropriate further investigation, allegations are then further characterized by whether or not it was substantiated or unsubstantiated. Substantiation implies that further investigation provided supporting evidence for the allegation. Additional actions are then taken based on the nature of the allegation. If an allegation is deemed unsubstantiated, it did not present enough evidence during the investigation to move forward. Many of these children are referred to outside community supports or agencies for assistance. At this point, the allegation is either closed with no further contact or monitored through utilization of recommended services. Closing an allegation implies that there is no further investigation, though services offered to that child may continue. While the data collection recorded allegation disposition, there will not be a specific focus between substantiated and unsubstantiated allegations. Rather, all allegations will be considered despite disposition. Chart review processes first identified and distinguished allegations based on the disposition. Allegations were then broken down by type and summed for each child. Instead of processing allegation types as victimization types, the present study addresses analyses with a poly-allegation approach due to the inclusion of all allegation dispositions. In doing so, the study will still follow the poly-victimization model introduced and use allegations as a proxy for victimization, recognizing the potential that not all allegations presented sufficient evidence for occurrence and thus cannot be considered a definite victimization experience.

Though the current study does not distinguish between allegation dispositions, it is important to consider their relative occurrence. Allegations often co-occur and offer a separate

description of the same incident, focusing on a separate type of victimization or exposure. Thus one allegation may be unsubstantiated while another was substantiated or assigned to FAR. Moreover, each child per family unit may also present different allegation totals with varying dispositions. For that reason, the present study examines allegation totals and dispositions at the child level rather than by family unit.

Procedure

This study followed a correlational design that utilized a retrospective chart review model. Correlational design is a quantitative method of research that is intended to examine the relationship between 2 or more quantitative variables within the same group of subjects. The purpose of this design was to identify possible trends among children and families that were exposed to multiple types of victimization, as well as examine potential relationships among these trends.

Five staff members from Connecticut Children's Medical Center and UCONN Health extracted data by chart review at the child, parent and family level through use of an extraction tool in Qualtrics that was developed by the research team. The purpose of using the extraction tool was to have a systematic, structured method of data extraction where measured variables remained consistent across cases. This survey tool also mirrored the flow of documentation that is typically followed by case workers. An in-depth description of the extraction survey is provided below. Data were gathered from two DCF office locations in Connecticut. Both offices offered access to the department's online database as well as the ability to obtain physical files. Review personnel were trained to use the survey tool and locate the corresponding information within each chart.

Chart review procedures were uniform across both data collection sites. Prior to extracting data through the survey, chart review personnel reviewed the physical version of the chart to ensure that all pieces of relevant data were captured. This could mean review of multiple paper files based on the family's length of involvement and number of allegations. Once the first phase of review was completed, staff then reviewed the chart through use of the department's online database where files are stored electronically. Review staff provided a narrative for each documented allegation. Narratives were intended to summarize all necessary pieces of information regarding each allegation, including family members present, details of exposure and environment at the time of exposure, substantiation status, and any relevant material from individual interviews with family members.

Measures. The data extraction instrument was complex in structure as it was intended to examine numerous variables, resulting in a total of 724 items. However, only 150 of those items were analyzed for the present study. While it did not contain standardized, validated measures, items thoroughly covered family background and demographics, CPS investigation history, history of maltreatment, psychiatric diagnoses, exposure to domestic or community violence, and exposure to non-interpersonal trauma. The survey began by entering the total number of allegations, then following a specific, complex set of questions for each allegation. These included the type of allegation and detailed explanation of exposure experience, specified child victims, exposure to intimate partner violence (IPV), and allegation disposition.

When developing this tool, skip logic and specific rules were incorporated to define which items will be answered, creating a custom path through the survey that varied based on previous information submitted. Questions answered in the survey were dependent on multiple factors at the family level including how many children are in the family, number of recorded

allegations, types of allegations, and disposition of CPS involvement. Components of the data extraction instrument mirrored some of the instruments used by DCF when documenting allegations and general family overview. This instrument was designed to extract data from cases of all sizes, addressing the range of total allegations and varying number of children per family.

Once the dataset was cleaned and organized, extracted data were coded through application of a dichotomous "yes/no" system based on the types of allegations indicated on the chart or any noted occurrence in the family's narrative. For the purposes of the present study, allegation types noted are understood as victimization types in order to accurately measure exposure for each child. In doing so, a child's victimization history was operationally defined through simple summation of different allegation types and used as scores for overall exposure severity in a child's lifetime. Frequency of allegation types were not taken into account and thus not addressed in the present study. Additionally, separate variables were created to reflect each allegation as a type to enable comparisons across types and the overall sum. The same process was completed for psychiatric diagnoses.

Statistical Analyses

In order to better examine poly-victimization and its potential relationships with child mental health outcomes, caregiver impairment and various family characteristics, a variety of analyses were employed. A cluster analysis was run to identify poly-victim subgroups with distinct profiles based on the number of types of allegation experienced by each child. Thus the cluster analysis was primarily based on victimization type totals. The rationale behind running a cluster analysis was to examine whether cluster differences have a significant influence on other variables of interest.

Ford, Wasser, and Connor (2011) applied a similar method of cluster analysis in a study of poly-victims which successfully identified subgroups with statistically significant profile differences. The current procedure, however, applies a bottom-up hierarchical clustering method where cases start as their as own individual cluster and merge into a larger cluster as commonalities are identified. Cluster analysis then develops final clusters based on optimal group similarities and automatically identifies the ideal number of clusters based on the variables entered. Four clusters were selected for the model based upon two criteria set forth by Ford and colleagues (2011): each cluster needed to include at least 5% of the sample to allow between-group statistical comparisons and clusters were required to result in a cluster quality silhouette coefficient (measurement of cohesion and separation) of >.5 as well as a ratio size < 3.

A series of descriptive analyses were run to examine child demographics for the child sample. Additional descriptive analyses were then run to examine the prevalence of each type of allegation experienced by children throughout the duration of CPS involvement as well as various psychiatric outcomes across the sample. The final set of descriptive analyses were run at the family level (N=100) for the following parent characteristics: education level, CPS involvement as a minor, mental health status, substance abuse, violent criminal history, and whether the parent was in a relationship characterized by violence.

After completing descriptive analyses, bivariate relationships were measured between each primary variable. Pearson chi-square tests were performed to identify significant differences across poly-victimization clusters for age, gender and ethnicity. A series of one-way Analysis of Variances were run to measure differences between poly-victimization clusters in psychiatric diagnoses, demographics, types of victimization and parent characteristics. Multivariate relationships were then tested using linear multiple regression analyses to further examine the

relationship between poly-victimization cluster formation and the following potential predictor variables: parent CPS involvement as a minor, current violent relationship status, parent mental health status, parent substance abuse, and existence of parent criminal record. These analyses were run to determine whether the abovementioned predictor variables could account for a portion of overall poly-victimization effects.

Results

Sample Demographics

The sample was 49% male (*n*=117) and 51% female (*n*=121), typically ranging between 0 to 18 years old, M (SD) = 9.3 (5.9), with a small portion between the ages of 19 to 28 and a variety of ethnic backgrounds (see **Table 1**). Overall, the number of cumulative allegation events per child ranged from 1 to 38, *M (SD)* = 5.9 (6.2). Eighty-seven percent (N=207) of the sample of children had two or more documented allegations. Chart review revealed a maximum of 25 unsubstantiated allegations *M (SD)* = 3.6 (4.5), 11 substantiated allegations *M (SD)* = 1.2 (2.0), and 18 FAR, *M (SD)* = 1.1 (2.1), per child. Of the total child sample, 79% (N= 188) of all children demonstrated at least one unsubstantiated allegation. Conversely, about 48% (*N*= 115) of the child sample demonstrated at least one substantiated allegation.

Victimization was measured by allegation types noted in each chart and presented by percentage of children that experienced each type. Physical Neglect (93%, n=222), Emotional Neglect (54%, n=128), and Physical Abuse (37%, n=88) were most frequently represented among the child sample. **Table 2** provides a breakdown of allegation types and diagnoses for the sample as a whole.

Cluster Analysis: Identifying Subgroups of Poly-victimization Levels

Cluster analyses were run to identify levels of poly-victim subgroups within the dataset. One analysis was run with the inclusion of participants' psychiatric diagnoses sum to see whether this variable played a role in the cohesion and separation of clusters. Solutions with 2 through 4 clusters were provided, though solutions with less than 4 clusters were not of adequate size for between-group comparison. A four-cluster solution based solely on the total number of victimization types presented a strong quality silhouette coefficient (measurement of cohesion and separation) of 1.0, demonstrating an ideal solution where the within-cluster distances are small and the between- cluster distances are large. Cluster subgroups identified distinctive poly-victimization levels. Consistent with the first research question, cluster analysis produced 4 poly-victimization subgroups in order of the average number of experienced allegation types (See **Table 4**). Total psychiatric diagnoses logically varied across subgroup. About 73% of Clusters 1 and 2, 62% of Cluster 3 and 11% of Cluster 4 presented no diagnoses; the rest ranged between 1 and 6 different diagnoses. Only one child, a member of Cluster 4, presented 6 different psychiatric diagnoses.

A series of Chi-Square Tests of Independence were conducted to examine the relationship between each separate allegation type and the poly-victimization clusters. Analyses indicated a significant association between physical abuse and poly-victimization clusters, χ^2 (3, 238) = 105.18 $p < .05$, as well as emotional neglect and poly-victimization clusters, χ^2 (3, 238) = 100.95, $p < .05$, suggesting that clusters differed in these particular allegation types.

Distinctive Characteristics Across Poly-victimization Clusters

Demographics. Descriptive statistics and cross tabulation analyses were run to identify trends across poly-victimization clusters for the following child demographics: age group, gender, ethnicity, and family size. Some parent demographics were also included for these particular analyses, mother's education level and current relationship status. Additional one-way between-groups ANOVAs were run to examine whether trends were significant across poly-victimization clusters.

Table 3 provides a comparison of demographics by cluster. The children in Cluster 1 (29%, n=70) are predominantly white (49%, n=32), male (54%, n=38), and between birth to 8 years old (63%, n=43). Cluster 2 (38%, n=91) presented as the largest subgroup, where child participants are predominantly white (48%, n=44), 50% male (n=45), and between the ages of birth to 8 years old. Child participants in Cluster 3 (19%, n=45,) are predominantly white and black males females (56%, n=25) between the ages of birth to 8 years old. Cluster 4 (13%, n=32) is the smallest subgroup, made up of Latino (38%, n=12) females (56%, n=18) between the ages of 9 to 16 years old.

Results demonstrated that only age group, F (3,235) = 3.8, p = .01, and family size, F (3, 97) = 4.03, p = .01, were statistically significant differences across poly-victimization clusters. Post-hoc comparisons using the Tukey HSD test indicated that the average age range in cluster 3 (M = 1.87, SD = .707) was significantly different than cluster 4 (M = 1.42, SD = .606). Since this age variable reflects groups, this statistic indicates that the average age range for children in cluster 4 was between 9 to 16 years old while the average range in cluster 1 was between births to 8 years old.

As for family size, post-hoc comparisons using the Tukey HSD test indicate that the average number of children per family in cluster 3 (M = 3.93, SD = 5.01) was significantly different than cluster 1 (M = 2.05, SD = 1.35). This means that children in cluster 3 were more likely to be part of a larger family than children in than cluster 1. This is an important distinction considering that cluster 3 demonstrates a higher average of 3 allegation types while cluster 1 presents the lowest average of a single allegation type.

Mental Health Outcomes. A Pearson Correlation analysis was run to examine the relationship between the psychiatric diagnoses summed variable with the poly-victimization summed variable. There was a moderate positive correlation, r = .32, n= 238, p <.001, signifying that children with more allegations were at an increased risk for more psychiatric diagnoses. A one-way between-groups analysis of variance was then conducted to explore the relationship between poly-victimization clusters and the psychiatric diagnoses summed variable. Results demonstrated a statically significant difference between groups at the $p < .001$ level. Specifically, children in cluster 4 (M = 1.56, SD = 1.47) were more likely to have additional psychiatric diagnoses than children in clusters 1 (M = .414, SD = .712) and 2 (M = .538, SD = 1.01).

A series of Chi-Square Tests of Independence were then conducted to examine the relationship between each separate type of psychiatric diagnosis and poly-victimization clusters. Analyses indicated significant differences across clusters in depression, χ^2 (3, 238) = 36.13, p < .01 and bipolar disorder, χ^2 (3, 238) = 15.25, p < .01.**Table 4** provides a comparison of the differences across clusters.

Parent Demographics and Forms of Impairment as Potential Pathways to Poly-victimization

Parent Demographic Variables. Select parent sociodemographics were collected for each family (*N*=100) to investigate whether these factors influenced the likelihood of poly-victimization. For the purposes of the present study, only mother's demographic information was of interest mainly due to the limited availability of this data for fathers in numerous charts. Some parent demographics were not included in children's charts. Only 27% (n=27) of charts reviewed indicated an education level; some graduated from high school (9%, N=9), others completed some high school (15%, n=15) or obtained their GED (3%, N =3). Only 1% pursued at least one year of undergraduate studies. Current relationship information indicated that most mothers are currently married (25%, N =25) or in a relationship (26%, N =26) while 28% (N =28) are single and 9% recently divorced (N =9). Within the subgroup of mothers that are currently married or in a relationship, about 18% of charts (N =18) indicated a relationship that is categorized by violence.

Forms of Caregiver Impairment. The final research question was intended to examine associations between a selection of caregiver impairment variables, the allegation summed variable, and poly-victimization clusters. It is important to emphasize that data were again transposed from a child to family level in order to accurately complete analyses across parents. Parent variables of interest included for analysis were limited to those regarding the child's biological mother. These variables included substance abuse history and status of abuse noted at index allegation, psychiatric diagnoses, DCF involvement as a child, criminal history, and whether the current relationship is characterized by violence.

Table 5 provides a comparison of these characteristics by cluster. At least 39% of the sample (N =39) reported substance abuse at the time of the index allegation, where at least 38% (N =14) were active users and 8% (N =3) were involved in outpatient treatment. Over half of mothers were reported no longer using at index allegation (54%, N=20); the remaining responses (N =2) were not provided. Some mothers presented a violent criminal history (23%, N=23), though close to half of charts reviewed (47%, N =47) did not specify. However, 53% (N=53) hold a criminal record. Nine percent (N =9) of parents were indicated as having one psychiatric diagnosis while 19% (N =19) indicated 4 or more. More than half (53%, N =53) of the mothers in the sample did not have any psychiatric diagnoses. Additionally, 40% (N=40) of mothers indicated involvement with DCF as a minor.

A series of multiple regression analyses were run to further examine the predictive strength of each impairment variable. First, a linear multiple regression analysis was run to examine child demographics and caregiver impairment characteristics in the same model. This regression analysis was not statistically significant. An additional multiple regression analysis was run to assess predictive strength of the summed allegation variable, after controlling for the influence of age group, ethnicity, and gender. Age group, ethnicity and gender were entered at Step 1, explaining 8% of the variance in the summed allegation variable, F (4, 222) = 4.73, p = .001. After entry of the caregiver impairment variables at Step 2, the total variance explained by the model as a whole was 10.3%, F (6, 216) = 2.48, p > .001. Contrary to the assumed relationship, the caregiver impairment variables only explained an additional 2.4% of the variance in poly-allegation after controlling for demographics, R squared change =.024, F change (6, 216) = .974, p > .001. This means that the caregiver impairment variables of interest

did not uniquely influence poly-victimization. In the final model, age group was the only statistically significant predictor (beta = .327, p = .005) of poly-victimization.

Discussion

Poly-victimization has the potential to present life-long hardship. It is often identified as a significant predictor of psychological distress across a selection of studied populations (Hickman et al., 2013; Richmond, Elliott, Pierce, Aspelmeier, & Alexander, 2009). As past research has strongly indicated, many mental and physical health diagnoses are rooted within childhood experiences (Ballard et al., 2015). This is particularly alarming for children involved with CPS as they are often exposed to an array of adversities and suspected occurrences of victimization. Thus the present study aimed to examine the context of poly-victimization among a sample of children involved with CPS through the exploration of three research questions.

Identifying Subgroups of Poly-victimization Levels

Most victimization literature focuses on specific types rather than taking a collective approach toward measuring victimization (Finkelhor et al., 2007; Nishina & Juvonen, 2005). The present study recognized that victimization types often co-occur and thus took a more cumulative approach when exploring whether child data could be separated into statistically significant clusters based on distinct levels of poly-victimization. Cluster analyses identified 4 clusters with statistically significant differences in levels of poly-victimization, with average victimization scores by cluster ranging from a total of 1 to 4.25 different types of victimization.

It took several attempts to incorporate a variety of variables and identify a model with significant clusters in accordance with the guidelines determined by prior studies of poly-

victimization. The strongest, most cohesive model was solely dependent on the allegation summed variable and became less strong when psychiatric diagnoses and separate allegation types were added. The strength of the model also decreased each time an additional demographic was entered. Therefore the rest of the variables that were thought to play a role in the formation of clusters did not significantly influence cluster membership.

Cluster formation provided an orderly platform for analysis when examining differences between levels of poly-victimization. However, other studies have identified victimization subgroups that are not solely based on the number of different allegation types (Ford et al., 2011). Perhaps this may have been influenced by the methodology, particularly the way variables were measured. For example, the present study measured similar types of variables but did so by using an extraction tool that mirrored typical CPS documentation. Variables were thus either summed or dichotomous. Other chart review studies employed standardized measures, which may have had a greater influence on subgroup formation. Specifically, using standardized measures may have increased both the validity and sensitivity of their extraction tool. Moreover, the present study assessed all allegations despite disposition, unlike other CPS studies that assess only substantiated allegations. This could have also played a role in cluster formation.

It's also likely that the current study did not identify clusters with more elaborate alleged victimization profiles because of the low variability in demographics across the analyzed sample. In other poly-victimization studies with a chart review methodology, samples were more demographically diverse which made it simpler to develop unique poly-victimization subgroups (Ford et al., 2011). Thus it may be a result of the CPS-involved population utilized for the present study.

Additional goodness of fit analyses identified a significant relationship between clusters and the separate physical abuse and emotional neglect variables, indicating an expected association between poly-victimization clusters and those particular allegation types. While this does not specify which clusters are at greater risk, it can be assumed that the poly-victimization level likely influences the probability of experiencing physical abuse or emotional neglect in particular.

Distinctive Characteristics Across Poly-victim Clusters

It was anticipated that poly-victimization clusters would demonstrate distinctive characteristics across each group. While the current study did not find significant differences in gender or ethnicity, age and family size were significantly different between clusters. This was an interesting finding given the current debate of whether age is a risk or protective factor (Keppel-Benson & Ollendick, 1993; Yule et al., 2000; Harder, Mutiso, Khasakhala, Burke, & Ndetei, 2012). Children in cluster 4 fell mostly within the age range of 9 to 18 years old, while children in cluster 1 were more often within birth to 8 years old. Cluster 4 is also recognized as the cluster with the highest average allegation type score where cluster 1 has the lowest. Following this result alone, it's somewhat difficult to draw conclusions regarding whether age influenced the risk of exposure for clusters. Unless a child experienced rapid cumulative exposure between birth to 8 years of age, then children in the sample that are over 8 years old may present a higher number of allegation types simply because of the window of time when chart review was conducted. This result also sheds light on the importance of early identification and the potential difference it can have for family outcomes.

Family size was also significantly different between clusters 4 and 1. Specifically, children in cluster 4 were typically more likely to be part of a larger family with more children than cluster 1. While past research has not much addressed the influence of family size, it may be that children with more siblings face an increased risk of exposure, similar to the relationship identified by Ford, Goodman, & Meltzer (2004) between psychiatric disorders and number of siblings. It's likely that this relationship may be influenced by other variables, such as socioeconomic status. One must also consider what CPS involvement might look like within a home to further understand the potential similarities and differences between clusters. First, children from families with siblings may be considered a victim of multiple events if they are simply listed as potentially exposed. This is more likely to happen when caseworkers are unsure of sibling's locations during an incident that mainly involved one child. From a data perspective, this type of situation may present a child profile with several siblings and numerous alleged victimization types.

Current literature supports a clear, positive relationship between increased victimization and mental health outcomes. Results from the present study demonstrated statically significant differences between clusters, where children in cluster 4 were more likely to have additional psychiatric diagnoses than children in clusters 1 and 2. These results align with the current literature, signifying that children who experience multiple forms of allegation are more likely to suffer from a wide range psychological, emotional and behavioral challenges (Cecil, Viding, Barker, Guiney, & McCrory, 2014; Cicchetti & Toth, 2005). Despite these findings, it is important to recognize that not all psychiatric diagnoses identified in chart review are documented by a mental health professional. Instead, this type of documentation in charts is

based on caseworker inclusion. Thus an underestimate of psychiatric diagnoses made by a mental health professional is likely.

Caregiver Impairment as Potential Pathways to Poly-victimization

The present study did not identify any significant types of caregiver impairment as risk factors for continued victimization. In fact, results indicated that caregiver impairment variables only explained 2.4% of the variance in poly-victimization. However, results highlight the existence of high caregiver impairment levels regardless of victimization types. Though forms of caregiver impairment were not significantly different across clusters, impairment was high in the sample as a whole. Research has typically shown that children with parents that are psychiatrically impaired, substance abusing, or criminal justice- involved (Ford, Wasser, & Connor, 2011; Kinner, Alati, Najman, & Williams, 2007) are at greater risk of severe psychological and behavioral problems, thus potentially increasing the risk of experiencing poly-victimization, as well. There are several explanations as to why results from the present study do not support this notion in particular. First, forms of caregiver impairment may be under-documented by caseworkers, reflecting the variability in documentation methods. While some caseworkers thoroughly identify forms of impairment, others may do so with less accuracy. This may have influenced the frequency of impairment forms documented across the sample.

Additionally, the strong, positive relationship between caregiver impairment and children's mental health outcomes may exist on its own without influence from the number of traumas or allegation types experienced. While some cases might also demonstrate high victimization levels, it may be more of a fluctuating variable that does not always have an influence on the relationship between mental health challenges and exposure to forms of

caregiver impairment. Additionally, these forms of impairment may be typical across most CPS-involved families regardless of the total types of alleged victimization exposure. In other words, forms of caregiver impairment may be the same across children with only one exposure type and those with 4 or more.

Strengths and Limitations

There are several strengths of the present study that should be noted. First, this study illustrates the importance of assessing all types of alleged victimization in a sample of CPS-involved children. As much literature has supported, this particular population is at a greater risk for experiencing multiple types of victimization at the same time, even if only a single incident of victimization is being investigated. Studies that examine a single type of exposure among CPS-involved children may gather a misleading exposure profile and in result, make inaccurate assumptions regarding victimization and associated mental health outcomes.

Further, a large proportion of research regarding CPS-involved families often focuses only on substantiated allegations given the fact that they are deemed true by investigation (Raissian, Dierkhising, Geiger, & Schelbe, 2014). After reviewing charts as a research team, however, a trend was noticed in that many unsubstantiated allegations were supported in a number other ways, though did not meet the standard evidence criteria through that single investigation. This was bothersome as it became clear that these children presented with a misleading exposure profile, which likely lead to inadequate service referrals being made. Children often times did not get the support they needed since referrals are made to address needs presented by substantiated allegations. While these children in particular may have only one or two substantiated allegations though cumulatively, there were sometimes 5 or more

allegations that were unsubstantiated. Thus the present study investigates a cumulative count of allegations despite substantiation status in order to provide a more accurate view of what the child sample experienced and ultimately take a cumulative approach to understanding victimization.

Finally, the present study examined a critically important relationship between poly-victimization and caregiver impairment. Specifically, it investigated interrelated components of this relationship that are often overlooked in studies of particular victimization types. Data was also gathered systematically through chart review, which offered a unique, retrospective understanding of what may be considered an under-examined population.

Results of the present study should also be considered in the context of multiple limitations. First, a small sample was utilized which may have restricted the representativeness of the greater population. Moreover, there is great variability in documentation across caseworkers. This can be problematic for the present study since extracted data largely reflects information that was reported through the view of an involved caseworker. This may have influenced the materials being entered as caseworkers are able to report their own perspective, thus potentially skewing the words and experiences of others. Moreover, caseworkers are responsible for reporting case details for many cases at once. Often times, children's charts were incomplete to some degree. While review processes in place ensured accuracy in the data being collected, this may have restricted the amount of data that was available to collect. Caseworkers occasionally offered time to discuss necessary closed cases if there were questions about items being collected. However, this was not a readily available option. Future studies should consider more consistent methods of addressing missing data when dealing with CPS chart review.

Another limitation that should be noted is the lack of incorporated structured measures and scales within data collection. Given the applied chart review methodology within the CPS context, research staff was less inclined to incorporate structured measures and instead, mirrored the review process from typical documentation standard followed by caseworkers. This model was helpful when conducting chart review as it followed the same order in which data was recorded, though it became challenging to structure variables and measure constructs without a preconceived coding scheme. By incorporating developed measurements that closely apply to the data within each chart, variables would be more easily created which would in turn make constructs easier to compare and connect. Ideally, future studies should consider a balance between a structured model for measurement and abstraction that both reflects the processes of case workers but also includes measures and scales related to specific study aims.

Future Direction

The present study retrospectively examines poly-victimization in a high-risk sample across a specified period of time, though the reality is that it's likely to occur at present. Moreover, conclusions drawn solely from CPS charts largely reflect staff perspective, possibly overlooking important details regarding other child contexts. Thus further research should consider follow-up options across multiple contexts to ideally support what is collected through CPS chart review. This may include gathering follow-up assessments from within the home or school setting outside of chart review and conducting qualitative interviews to obtain perspective from involved providers and caregivers themselves. This approach would offer present-day data alongside retrospective chart review data, providing a unique, longitudinal perspective of poly-

victimization. Doing so may also offer some insight on trajectory and transformation over time for poly-victimized children.

Additionally, future studies might also consider operationally defining poly-victimization according to exposure categories to inform subgroups rather than forming clusters based on the overall sum of individual victimization types. This would likely provide insight unique to separate groups of exposure type though still within the realm of poly-victimization. For example, some children may experience multiple different types of maltreatment but no forms of neglect or other types of exposure. Falling within one subgroup category, this experience is likely to result in different impacts when compared to children who experience the same total number of types but spread across multiple subgroup categories. Applying a category-defined poly-victimization approach may not only assist with theoretical development but also produce some practical advantages to inform intervention, treatment services, and evaluation research. One specific example of this includes eligibility screening which can be completed more efficiently if children are screened for a smaller number of broad exposure categories compared to a relatively large number of individual exposure types (Hickman et al.., 2013). Additionally, the present study did not take frequency of allegations into account. Doing so would have provided insight on chronic exposure and thus enhanced the overall understanding of poly-victimization. Thus future studies should consider evaluating both the type and frequency of each allegation and use that to possibly enhance the formation of poly-victimization subgroups.

Considering a more complex examination of caregiver impairment in the context of poly-victimization may also provide valuable insight. While there has been some movement to examine this further, there is still considerable work to be done. Given the lack of significance found across forms of caregiver impairment in the present study, a different approach is

suggested. Future studies should place a greater focus on caregiver impairment and explore its existence more deeply. For example, studies may gather additional data about each form of impairment such as the time period it occurred, severity, degree of children's knowledge regarding this impairment, whether it was addressed or treated, and if so, what the outcome was.

Finally, future studies might also consider collapsing smaller poly-victimization groups together in order to form larger groups for comparison. This would entail combining groups with low victimization averages together to represent a low victimization group, while also combining groups with high victimization scores. Comparisons may then be more powerful and offer more insight on distinct characteristics across groups.

Poly-victimization and Uniquely Informed Interventions

The field of traumatic stress research has recently established an evidence base for effective treatments and practices, including those that address particular types of trauma, developmental stages, and cultures (De Arellano, Ko, Danielson, & Sprague, 2008). With that, efforts were also put towards successfully developing, disseminating, and implementing and interventions for specific victimized populations across multiple child service systems (Ko et al., 2008; Pynoos et al., 2014). However, given the potentially drastic differences across outcomes for victims of a single exposure type compared to poly-victims, it is necessary that interventions be uniquely built and reformed to address the changing needs based on exposure levels.

Prevention and intervention efforts are typically organized around distinct forms of victimization and may prove to be ineffective for children with high levels of victimization exposure (Finkelhor et al., 2007). The same applies for CPS practice where families are referred to various services and interventions based on specific types of victimizations endorsed. To

successfully address and eventually prevent poly-victimization, it may be important to reconsider conventional approaches that target separate victim populations. Instead, target levels of victimization within subgroups of broad categories to better assist the most vulnerable and victimized children (Finkelhor et al., 2007). Specific intervention components should be adapted from other interventions that proved to be successful when involving groups of highly victimized children. These may include providing parent education and supervision, home visitation, and integrated care within a family's typical healthcare setting. Research evaluating the effectiveness of such interventions has demonstrated that structured parenting programs are clinically proven to successfully promoting the mental health and well-being of children (Mihalopoulos, Vos, Pirkis, & Carter, 2011; Hornor, 2015).

Integrated care may be more effective in identifying trauma exposure at far earlier stages, ideally before CPS involvement, if any. When provided alongside the right intervention, early identification can potentially prevent lifelong consequences for poly-victims. Horner (2015) provides a brief checklist of factors that are necessary for successful early identification within integrated care. First, children's psychosocial history must be gathered at the child's first health care visit and should then be updated every 6 months. Part of this history would ideally involve screening for psychosocial risk factors including parent psychological diagnoses, substance abuse, exposure to domestic violence, CPS involvement and history of maltreatment as a minor, criminal or violent history, and parent support systems. Providers must then pay attention to trends in families' psychosocial histories and promptly address any concerns. Through this type of primary prevention, providers have the potential to both identify and treat risk factors before they have the opportunity to influence a child's development.

References

Acosta, J., Barnes-Proby, D., Harris, R., Francois, T., Hickman, L. J., Jaycox, L. H., & Schultz, D. (2012). An examination of measures related to children's exposure to violence for use by both practitioners and researchers. *Trauma, Violence, & Abuse, 13*(4), 187-197. doi:10.1177/1524838012454943

Adams, Z. W., Moreland, A., Cohen, J. R., Lee, R. C., Hanson, R. F., Danielson, C. K., … Sullivan, C. J. (2015). Poly-victimization, income, and ethnic differences in trauma-related mental health during adolescence. *Child Abuse & Neglect*, *36*(2), 217–231. http://doi.org/10.1891/0886-6708.VV-D-12-00061R1

Adams, Z. W., Moreland, A., Cohen, J. R., Lee, R. C., Hanson, R. F., Danielson, C. K., & Briggs, E. C. (2016). Poly-victimization: Latent profiles and mental health outcomes in a clinical sample of adolescents. *Psychology of Violence, 6*(1), 145-155. doi:10.1037/a0039713

Afifi, T. O., Brownridge, D. A., Macmillan, H., & Sareen, J. (2010). The relationship of gambling to intimate partner violence and child maltreatment in a nationally representative sample. *Journal of Psychiatric Research, 44*, 331-337.

Alexander, P. C. (2009). Childhood trauma, attachment, and abuse by multiple partners. *Psychological Trauma: Theory, Research, Practice, and Policy, 1*(1), 78-88. doi:10.1037/a0015254

Álvarez-Lister, M. S., Pereda, N., Abad, J., & Guilera, G. (2014). Poly-victimization and its relationship to symptoms of psychopathology in a southern european sample of adolescent outpatients. *Child Abuse & Neglect, 38*(4), 747-756. doi:10.1016/j.chiabu.2013.09.005

Andrews, A. R., Jobe-Shields, L., López, C. M., Metzger, I. W., de Arellano, Michael A. R., Saunders, B., & Kilpatrick, D. (2015). Polyvictimization, income, and ethnic differences in trauma-related mental health during adolescence. *Social Psychiatry and Psychiatric Epidemiology, 50*(8), 1223-1234. doi:10.1007/s00127-015-1077-3

Bae, H., Solomon, P. L., & Gelles, R. J. (2007). Abuse type and substantiation status varying by recurrence. *Children And Youth Services Review, 29*(7), 856-869. doi:10.1016/j.childyouth.2007.01.002

Ballard, E. D., Van Eck, K., Musci, R. J., Hart, S. R., Storr, C. L., Breslau, N., & Wilcox, H. C. (2015). Latent classes of childhood trauma exposure predict the development of behavioral health outcomes in adolescence and young adulthood. *Psychological Medicine, 45*(15), 3305-3316. doi:10.1017/S0033291715001300

Beck, N., Palic, S., Andersen, T. E., & Roenholt, S. (2014). Childhood abuse types and physical health at the age of 24: Testing health risk behaviors and psychological distress as mediators. *Journal of Aggression, Maltreatment & Trauma, 23*(4), 400-413. doi:10.1080/10926771.2014.892047

Boney-McCoy, S., & Finkelhor, D. (1996). Is youth victimization related to trauma and depression after controlling for prior symptoms and family relationships? A longitudinal, prospective study. *Journal of Consulting and Clinical Psychology, 64*, 1406-1416.

Briere, J., Kaltman, S., & Green, B. L. (2008). Accumulated childhood trauma and symptom complexity. *Journal of Traumatic Stress, 21,* 223–226. http://dx.doi.org/10.1002/jts.20317

Briggs, E. C., Fairbank, J. A., Greeson, J. K. P., Layne, C. M., Steinberg, A. M., Amaya-Jackson, L., . . . Pynoos, R. S. (2013). Links between child and adolescent trauma exposure and service use histories in a national clinic-referred sample. *Psychological Trauma: Theory, Research, Practice, and Policy, 5*(2), 101-109. doi:10.1037/a0027312

Bücker, J., Kapczinski, F., Post, R., Ceresér, K. M., Szobot, C., Yatham, L. N., & ... Kauer-Sant'Anna, M. (2012). Cognitive impairment in school-aged children with early trauma. *Comprehensive Psychiatry, 53*(6), 758-764. doi:10.1016/j.comppsych.2011.12.006

Caspi, A., McClay, J., Moffitt, T. E., Mill, J., Martin, J., Craig, I. W., . . .Poulton, R. (2002). Role of genotype in the cycle of violence in maltreated children. *Science, 297*, 851-854.

Cecil, C. A. M., Viding, E., Barker, E. D., Guiney, J., & McCrory, E. J. (2014). Double disadvantage: The influence of childhood maltreatment and community violence exposure on adolescent mental health. *Journal of Child Psychology and Psychiatry, 55*(7), 839-848. doi:10.1111/jcpp.12213

Chan, K. L. (2013). Victimization and poly-victimization among school-aged chinese adolescents: Prevalence and associations with health. *Preventive Medicine: An International Journal Devoted to Practice and Theory, 56*(3-4), 207-210. doi:10.1016/j.ypmed.2012.12.018

Chasson, G. S., Mychailyszyn, M. P., Vincent, J. P., & Harris, G. E. (2013). Evaluation of trauma characteristics as predictors of attrition from cognitive-behavioral therapy for child victims of violence. *Psychological Reports, 113*(3), 734-753. doi:10.2466/16.02.PR0.113x30z2

Choi, J. Y., & Oh, K. J. (2014). Cumulative childhood trauma and psychological maladjustment of sexually abused children in korea: Mediating effects of emotion regulation. *Child Abuse & Neglect, 38*(2), 296-303. doi:10.1016/j.chiabu.2013.09.009

Cicchetti, D., & Toth, S.L. (2005). Child maltreatment. *Annual Review of Clinical Psychology, 1*, 409–438.

Cloitre, M., Stolbach, B. C., Herman, J. L., van, d. K., Pynoos, R., Wang, J., & Petkova, E. (2009). A developmental approach to complex PTSD: Childhood and adult cumulative trauma as predictors of symptom complexity. *Journal of Traumatic Stress, 22*(5), 399-408. doi:10.1002/jts.20444

Cohen, P., Brown, J., & Smailes, E. (2001). Child abuse and neglect and the development of mental disorders in the general population. *Development and Psychopathology,* 13, 981-999.

Cole, B., Maxwell, M., & Chipaca, A. (2014). Surviving in the shadows of war: Poly victimised children in post-conflict angola. *Crime Prevention and Community Safety, 16*(2), 87-104. doi:10.1057/cpcs.2014.4

Colman, I., Garad, Y., Zeng, Y., Naicker, K., Weeks, M., Patten, S. B., . . . Wild, T. C. (2013). Stress and development of depression and heavy drinking in adulthood: Moderating effects

of childhood trauma. *Social Psychiatry and Psychiatric Epidemiology*, *48*(2), 265-274. doi:10.1007/s00127-012-0531-8

Connelly, C. D., Hazen, A. L., Coben, J. H., Kelleher, K. J., Barth, R. P., & Landsverk, J. A. (2006). Persistence of intimate partner violence among families referred to child welfare. *Journal of Interpersonal Violence*, *21*(6), 774-797. doi:10.1177/0886260506287316

Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., van, d. K. (2005). Complex trauma in children and adolescents. *Psychiatric Annals*, *35*(5), 390-398. Retrieved from http://ezproxy.lib.uconn.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&

Cuevas, C., Finkelhor, D., Ormrod, R., & Turner, H. (2009). Psychiatric diagnosis as a risk marker for victimization in a national sample of children. *Journal of Interpersonal Violence*, *24*(4), 636–652.

Cuevas, C. A., Finkelhor, D., Clifford, C., Ormrod, R. K., & Turner, H. A. (2010). Psychological distress as a risk factor for re-victimization in children. *Child Abuse & Neglect*, *34*(4), 235-243. doi:10.1016/j.chiabu.2009.07.004

Cuevas, C. A., Sabina, C., & Milloshi, R. (2012). Interpersonal victimization among a national sample of latino women. *Violence Against Women*, *18*(4), 377-403. doi:10.1177/1077801212452413

Cyr, K., Chamberland, C., Lessard, G., Clément, M., Wemmers, J., Collin-Vézina, D., Damant, D. (2012). Polyvictimization in a child welfare sample of children and youths. *Psychology of Violence, 2*(4), 385-400. doi:10.1037/a0028040

Cyr, K., Clément, M., & Chamberland, C. (2014). Lifetime prevalence of multiple victimizations and its impact on children's mental health. *Journal of Interpersonal Violence, 29*(4), 616-634. doi:10.1177/0886260513505220

D'Andrea, W., Ford, J., Stolbach, B., Spinazzola, J., & van, d. K. (2012). Understanding interpersonal trauma in children: Why we need a developmentally appropriate trauma diagnosis. *American Journal of Orthopsychiatry, 82*(2), 187-200. doi:10.1111/j.1939-00

De Arellano, M. A., Ko, S. J., Danielson, C. K., & Sprague, C. M. (2008). *Trauma-informed interventions: Clinical and research evidence and culture-specific information project*. Los Angeles, CA: National Center for Child Traumatic Stress.25.2012.01154.x

Duncan, R. D., Saunders, B. E., Kilpatrick, D. G., Hanson, R. F., & Resnick, H. S. (1997). 'Childhood physical assault as a risk factor for PTSD, depression, and substance abuse: Findings from a national survey': Erratum. *American Journal of Orthopsychiatry, 67*(1), 161-161. doi:10.1037/h0085080

Edwards, V. J., Anda, R. F., Felitti, V. J., & Dube, S. R. (2004). Adverse childhood experiences and health-related quality of life as an adult. In K. A. Kendall-Tackett (Ed.), *Health consequences of abuse in the family: A clinical guide for evidence-based practice*. Washington, DC: American Psychological Association.

Edwards, V. J., Holden, G. W., Felitti, V. J., & Anda, R. F. (2003). Relationship between multiple forms of childhood maltreatment and adult mental health in community respondents: Results from the adverse childhood experiences study. *American Journal of Psychiatry, 160*, 1453–1460. Gill,

Elsaesser, C. M., & Voisin, D. R. (2015). Correlates of polyvictimization among african american youth: An exploratory study. *Journal of Interpersonal Violence, 30*(17), 3022-3042. doi:10.1177/0886260514554424

Enlow, M. B., Blood, E., & Egeland, B. (2013). Sociodemographic risk, developmental competence, and PTSD symptoms in young children exposed to interpersonal trauma in early life. *Journal of Traumatic Stress, 26*(6), 686-694. doi:10.1002/jts.21866

Espelage, D. L., Low, S., & Rue, D. L. (2012). Relations between peer victimization subtypes, family violence, and psychological outcomes during early adolescence. *Psychology of Violence, 2*(4), 313-324. doi:10.1037/a0027386

Evans, S. E., Davies, C., & DiLillo, D. (2008). Exposure to domestic violence: A meta-analysis of child and adolescent outcomes. *Aggression and Violent Behavior, 13*(2), 131-140. doi:10.1016/j.avb.2008.02.005

Farver, J. A. M., Xu, Y., Eppe, S., Fernandez, A., & Schwartz, D. (2005). Community violence, family conflict, and preschoolers' socioemotional functioning. *Developmental Psychology, 41*(1), 160-170. doi:10.1037/0012-1649.41.1.160

Finkelhor, D. (2009). The prevention of childhood sexual abuse. *The Future Of Children*, *19*(2), 169-194. doi:10.1353/foc.0.0035

Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2007). Polyvictimization and trauma in a national longitudinal cohort. *Development and Psychopathology, 19*(1), 149-166. doi:10.1017/S0954579407070083

Fitzpatrick, J. J. (2013). Resilience interventions. *Archives of Psychiatric Nursing, 27*(3), 111-111. doi:10.1016/j.apnu.2013.03.003

Fluke, J. D., Yuan, Y. T., & Edwards, M. (1999). Recurrence of maltreatment: An application of the National Child Abuse and Neglect Data System (NCANDS). *Child Abuse & Neglect*, *23*(7), 633-650. doi:10.1016/S0145-2134(99)00039-3

Ford, J. D. (2015). Complex PTSD: Research directions for nosology/assessment, treatment, and public health. *European Journal of Psychotraumatology, 6* Retrieved from http://ezproxy.lib.uconn.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2015-26822-001&site=ehost-live

Ford, J. D., Connor, D. F., & Hawke, J. (2009). Complex trauma among psychiatrically impaired children: A cross-sectional, chart-review study. *The Journal of Clinical Psychiatry, 70*(8), 1155-1163. doi:10.4088/JCP.08m04783

Ford, J. D., Elhai, J. D., Connor, D. F., & Frueh, B. C. (2010). Poly-victimization and risk of posttraumatic, depressive, and substance use disorders and involvement in delinquency in a

national sample of adolescents. *Journal of Adolescent Health, 46*(6), 545-552. doi:10.1016/j.jadohealth.2009.11.212

Ford, J. D., Gagnon, K., Connor, D. F., & Pearson, G. (2011). History of interpersonal violence, abuse, and nonvictimization trauma and severity of psychiatric symptoms among children in outpatient psychiatric treatment. *Journal of Interpersonal Violence, 26*(16), 3316-3337. doi:10.1177/0886260510393009

Ford, J. D., Wasser, T., & Connor, D. F. (2011). Identifying and determining the symptom severity associated with polyvictimization among psychiatrically impaired children in the outpatient setting. *Child Maltreatment, 16*(3), 216-226. doi:10.1177/1077559511406109

Ford, T., Goodman, R., & Meltzer, H. (2004). The relative importance of child, family, school and neighbourhood correlates of childhood psychiatric disorder. *Social Psychiatry And Psychiatric Epidemiology, 39*(6), 487-496. doi:10.1007/s00127-004-0782-0

Fortier, M. A., DiLillo, D., Messman-Moore, T., Peugh, J., DeNardi, K. A., & Gaffey, K. J. (2009). Severity of child sexual abuse and revictimization: The mediating role of coping and trauma symptoms. *Psychology of Women Quarterly, 33*(3), 308-320. doi:10.1111/j.1471-6402.2009.01503.x

Foster, J., Kuperminc, G., & Price, A. (2004). Gender differences in posttraumatic stress and related symptoms among inner-city minority youth exposed to community violence. *Journal of Youth and Adolescence, 33*, 59–69. doi:10.1023/A:1027386430859

Fuller, T., & Nieto, M. (2009). Substantiation and maltreatment rereporting: A propensity score analysis. *Child Maltreatment*, *14*(1), 27-37. doi:10.1177/1077559508326925

Ghasemi, M. (2009). Impact of domestic violence on the psychological wellbeing of children in iran. *Journal of Family Studies*, *15*(3), 284-295. doi:10.5172/jfs.15.3.284

Graham-Bermann, S. A., Castor, L. E., Miller, L. E., & Howell, K. H. (2012). The impact of intimate partner violence and additional traumatic events on trauma symptoms and PTSD in preschool-aged children. *Journal of Traumatic Stress*, *25*(4), 393-400. doi:10.1002/jts.21724

Graham-Bermann, S., & Perkins, S. (2010). Effects of early exposure and lifetime exposure to intimate partner violence (IPV) on child adjustment. *Violence and Victims*, *25*(4), 427-439. doi:10.1891/0886-6708.25.4.427

Grasso, D., Greene, C., & Ford, J. D. (2013). Cumulative trauma in childhood. In J. D. Ford, C. A. Courtois, J. D. Ford (Ed) & C. A. Courtois (Ed) (Eds.), (pp. 79-99). New York, NY, US: Guilford Press. Retrieved from http://ezproxy.lib.uconn.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2013-27155-005&site=ehost-live

Greger, H. K., Myhre, A. K., Lydersen, S., & Jozefiak, T. (2015). Previous maltreatment and present mental health in a high-risk adolescent population. *Child Abuse & Neglect*, *45*, 122-134. doi:10.1016/j.chiabu.2015.05.003

Guerra, C., Pereda, N., Guilera, G., & Abad, J. (2016). Internalizing symptoms and polyvictimization in a clinical sample of adolescents: The roles of social support and non-productive coping strategies. *Child Abuse & Neglect, 54*, 57-65. doi:10.1016/j.chiabu.2016.03.004

Gustafsson, P. E., Nilsson, D., & Svedin, C. G. (2009). Polytraumatization and psychological symptoms in children and adolescents. *European Child & Adolescent Psychiatry*, *18*(5), 274-283. doi:10.1007/s00787-008-0728-2

Hagenaars, M. A., Fisch, I., & van Minnen, A. (2011). The effect of trauma onset and frequency on PTSD-associated symptoms. *Journal Of Affective Disorders*, *132*(1-2), 192-199. doi:10.1016/j.jad.2011.02.017

Hamby, S., Finkelhor, D., Turner, H., & Ormrod, R. (2010). The overlap of witnessing partner violence with child maltreatment and other victimizations in a nationally representative survey of youth. *Child Abuse & Neglect*, *34*(10), 734-741. doi:10.1016/j.chiabu.2010.03.001

Hamby, S., McDonald, R., & Grych, J. (2014). Trends in violence research: An update through 2013. *Psychology of Violence, 4*(1), 1-7. doi:10.1037/a0035384

Hanson, R. F., Borntrager, C., Self-Brown, S., Kilpatrick, D. G., Saunders, B. E., Resnick, H. S., & Amstadter, A. (2008). Relations among gender, violence exposure, and mental health: The National Survey of Adolescents. *American Journal of Orthopsychiatry, 78*, 313–321. doi:10.1037/ a0014056

Harder, V. S., Mutiso, V. N., Khasakhala, L. I., Burke, H. M., & Ndetei, D. M. (2012). Multiple traumas, postelection violence, and posttraumatic stress among impoverished kenyan youth. *Journal of Traumatic Stress, 25*(1), 64-70. doi:10.1002/jts.21660

Hazen, A. L., Connelly, C. D., Kelleher, K. J., Barth, R. P., & Landsverk, J. A. (2006). Female caregivers' experiences with intimate partner violence and behavior problems in children investigated as victims of maltreatment. *Pediatrics, 117*, 99-109.

Heinzelmann, M., & Gill, J. (2013). Epigenetic Mechanisms Shape the Biological Response to Trauma and Risk for PTSD: A Critical Review. *Nursing Research and Practice*, *2013*, 417010. http://doi.org/10.1155/2013/41701

Herrenkohl, R. C., & Herrenkohl, T. I. (2009). Assessing a child's experience of multiple maltreatment types: Some unfinished business. *Journal of Family Violence, 24*(7), 485-496. doi:10.1007/s10896-009-9247-2

Hickman, L. J., Jaycox, L. H., Setodji, C. M., Kofner, A., Schultz, D., Barnes-Proby, D., & Harris, R. (2013). How much does 'how much' matter? assessing the relationship between children's lifetime exposure to violence and trauma symptoms, behavior problems, and parenting stress. *Journal of Interpersonal Violence, 28*(6), 1338-1362. doi:10.1177/0886260512468239

Hornor, G. (2015). Childhood trauma exposure and toxic stress: What the PNP needs to know. *Journal of Pediatric Health Care, 29*(2), 191-198. doi:10.1016/j.pedhc.2014.09.006

Huang, C., Vikse, J. H., Lu, S., & Yi, S. (2015). Children's exposure to intimate partner violence and early delinquency. *Journal of Family Violence, 30*(8), 953-965. doi:10.1007/s10896-015-9727-5

Hunt, K. L., Martens, P. M., & Belcher, H. M. E. (2011). Risky business: Trauma exposure and rate of posttraumatic stress disorder in african american children and adolescents. *Journal of Traumatic Stress, 24*(3), 365-369. doi:10.1002/jts.20648

Jaffee, S. R., Caspi, A., Moffitt, T. E., & Taylor, A. (2004). Physical maltreatment victim to antisocial child: Evidence of an environmentally-mediated process. *Journal of Abnormal Psychology, 113*, 44-55.

Kazdin, A. E. (2011). Conceptualizing the challenge of reducing interpersonal violence. *Psychology of Violence, 1*, 166–187. http://dx.doi.org/ 10.1037/a0022990 Kilpatrick,

Kessler, R. C. (2000). Posttraumatic stress disorder: The burden to the individual and to society. *Journal of Clinical Psychiatry, 61* (Suppl 5), 4–12.

Kinner, S. A., Alati, R., Najman, J. M., & Williams, G. M. (2007). Do paternal arrest and imprisonment lead to child behaviour problems and substance use? A longitudinal analysis. *Journal of Child Psychology and Psychiatry, 48*, 1148-1156.

Klasen, F., Gehrke, J., Metzner, F., Blotevogel, M., & Okello, J. (2013). Complex trauma symptoms in former ugandan child soldiers. *Journal of Aggression, Maltreatment & Trauma, 22*(7), 698-713. doi:10.1080/10926771.2013.814741

Klasen, F., Oettingen, G., Daniels, J., & Adam, H. (2010). Multiple trauma and mental health in former ugandan child soldiers. *Journal of Traumatic Stress, 23*(5), 573-581. doi:10.1002/jts.20557

Klest, B. (2012). Childhood trauma, poverty, and adult victimization. *Psychological Trauma: Theory, Research, Practice, and Policy, 4*(3), 245-251. doi:10.1037/a0024468

Kliethermes, M., Schacht, M., & Drewry, K. (2014). Complex trauma. *Child and Adolescent Psychiatric Clinics of North America, 23*(2), 339-361. doi:10.1016/j.chc.2013.12.009

Ko, S. J., Kassem-Adams, N., Wilson, C., Ford, J. D., Berkowitz, S. J., Wong, M., & Layne, C. M. (2008). Creating trauma-informed systems: Child Welfare, education, first responders, health care, juvenile justice. *Professional Psychology: Research and Practice, 39,* 396–404. doi: 10.1037/0735-7028.39.4.396 Krinsley,

Lawson, D. M., & Quinn, J. (2013). Complex trauma in children and adolescents: Evidence-based practice in clinical settings. *Journal of Clinical Psychology, 69*(5), 497-509. doi:10.1002/jclp.21990

Lilly, M. M., London, M. J., & Bridgett, D. J. (2014). Using SEM to examine emotion regulation and revictimization in predicting PTSD symptoms among childhood abuse survivors. *Psychological Trauma: Theory, Research, Practice, and Policy, 6*(6), 644-651. doi:10.1037/a0036460

Ma, E. Y. M., & Li, F. W. S. (2014). Developmental trauma and its correlates: A study of chinese children with repeated familial physical and sexual abuse in hong kong. *Journal of Traumatic Stress, 27*(4), 454-460. doi:10.1002/jts.21944

Margolin, G., & Gordis, E.B. (2000). The effects of family and community violence on children. *Annual Review of Psychology, 51*, 445–479.

Margolin, G., & Vickerman, K. A. (2007). Posttraumatic stress disorder in chil- dren and adolescents exposed to family violence. I. Overview and issues. *Professional Psychology: Research and Practice, 38,* 613–619. doi:10.1037/0735- 7028.38.6.620

Margolin, G., & Vickerman, K. A. (2011). Posttraumatic stress in children and adolescents exposed to family violence: I. overview and issues. *Couple and Family Psychology: Research and Practice, 1,* 63-73. doi:10.1037/2160-4096.1.S.63

Martin, L., Revington, N., & Seedat, S. (2013). The 39-item child exposure to community violence (CECV) scale: Exploratory factor analysis and relationship to PTSD symptomatology in trauma-exposed children and adolescents. *International Journal of Behavioral Medicine, 20*(4), 599-608. doi:10.1007/s12529-012-9269-7

McLean, C. P., Morris, S. H., Conklin, P., Jayawickreme, N., & Foa, E. B. (2014). Trauma characteristics and posttraumatic stress disorder among adolescent survivors of childhood sexual abuse. *Journal of Family Violence, 29*(5), 559-566. doi:10.1007/s10896-014-9613-6

Meinck, F., Cluver, L. D., Boyes, M. E., & Mhlongo, E. L. (2015). Risk and protective factors for physical and sexual abuse of children and adolescents in africa: A review and

implications for practice. *Trauma, Violence, & Abuse, 16*(1), 81-107. doi:10.1177/1524838014523336

Messing, J. T., La Flair, L., Cavanaugh, C. E., Kanga, M. R., & Campbell, J. C. (2012). Testing posttraumatic stress as a mediator of childhood trauma and adult intimate partner violence victimization. *Journal of Aggression, Maltreatment & Trauma, 21*(7), 792-811. doi:10.1080/10926771.2012.686963

Mihalopoulos, C., Vos, T., Pirkis, J., & Carter, J. (2011). The economic analysis of prevention in mental health programs. *Annual Review Clinical Psychology, 7*, 169-201

Milne, L., & Collin-Vézina, D. (2015). Assessment of children and youth in child protective services out-of-home care: An overview of trauma measures. *Psychology of Violence, 5*(2), 122-132. doi:10.1037/a0037865; 10.1037/a0037865.supp (Supplemental)

Nishina, A., & Juvonen, J. (2005). Daily Reports of Witnessing and Experiencing Peer Harassment in Middle School. *Child Development, 76*(2), 435-450. doi:10.1111/j.1467-8624.2005.00855.x

Pereda, N., & Gallardo-Pujol, D. (2014). One hit makes the difference: The role of polyvictimization in childhood in lifetime revictimization on a southern european sample. *Violence and Victims, 29*(2), 217-231. doi:10.1891/0886-6708.VV-D-12-00061R1

Pereda, N., Guilera, G., & Abad, J. (2014). Victimization and polyvictimization of spanish children and youth: Results from a community sample. *Child Abuse & Neglect, 38*(4), 640-649. doi:10.1016/j.chiabu.2014.01.019

Philippe, F. L., Laventure, S., Beaulieu-Pelletier, G., Lecours, S., & Lekes, N. (2011). Ego-resiliency as a mediator between childhood trauma and psychological symptoms. *Journal of Social and Clinical Psychology, 30*(6), 583-598. doi:10.1521/jscp.2011.30.6.583

Pynoos, R. S., Steinberg, A. M., Layne, C. M., Liang, L., Vivrette, R. L., Briggs, E. C., . . . Fairbank, J. A. (2014). Modeling constellations of trauma exposure in the national child traumatic stress network core data set. *Psychological Trauma: Theory, Research, Practice, and Policy, 6*, S9-S17. doi:10.1037/a0037767

Raissian, K. M., Dierkhising, C. B., Geiger, J. M., & Schelbe, L. (2014). Child maltreatment reporting patterns and predictors of substantiation: Comparing adolescents and younger children. *Child Maltreatment, 19*(1), 3-16. doi:10.1177/1077559513518096

Saunders, B. E. (2003). Understanding children exposed to violence: Toward an integration of overlapping fields. *Journal of Interpersonal Violence, 18*(4), 356–376.

Saunders, B. E. (2012). Determining best practice for treating sexually victimized children. In P. Goodyear-Brown, and P. Goodyear-Brown (Eds.), (pp. 173-197). Hoboken, NJ: John Wiley & Sons Inc. Retrieved from http://ezproxy.lib.uconn.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2011-22926-008&site=ehost-live

Saunders, B. E., & Adams, Z. W. (2014). Epidemiology of traumatic experiences in childhood. *Child and Adolescent Psychiatric Clinics of North America, 23*(2), 167-184. doi:10.1016/j.chc.2013.12.003

Schultz, D., Jaycox, L. H., Hickman, L. J., Setodji, C., Kofner, A., Harris, R., & Barnes, D. (2013). The relationship between protective factors and outcomes for children exposed to violence. *Violence and Victims, 28*(4), 697-714. doi:10.1891/0886-6708.VV-D-12-00005

Scott, K. L., & Copping, V. E. (2008). Promising directions for the treatment of complex childhood trauma: The intergenerational trauma treatment model. *The Journal of Behavior Analysis of Offender and Victim Treatment and Prevention, 1*(3), 273-283. doi:10.1037/h0100449

Self-Brown, S., LeBlanc, M. M., David, K., Shepard, D., Ryan, K., Hodges, A., & Kelley, M. L. (2012). The impact of parental trauma exposure on community violence exposed adolescents. *Violence and Victims, 27*(4), 512-526. doi:10.1891/0886-6708.27.4.512

Shin, K. M., Chang, H. Y., Cho, S., Kim, N. H., Kim, K. A., & Chung, Y. K. (2015). Avoidance symptoms and delayed verbal memory are associated with post-traumatic stress symptoms in female victims of sexual violence. *Journal of Affective Disorders, 184*, 145-148. doi:10.1016/j.jad.2015.05.051

Shonk, S. M., & Cicchetti, D. (2001). Maltreatment, competency deficits, and risk for academic and behavioural maladjustment. *Developmental Psychology, 37*, 3-17.

Simons, D., Wurtele, S. K., & Heil, P. (2002). Childhood victimization and lack of empathy as predictors of sexual offending against women and children, *Journal of Interpersonal Violence, 17*, 1291–1307.

Soler, L., Paretilla, C., Kirchner, T., & Forns, M. (2012). Effects of poly-victimization on self-esteem and post-traumatic stress symptoms in spanish adolescents. *European Child & Adolescent Psychiatry, 21*(11), 645-653. doi:10.1007/s00787-012-0301-x

Śpila, B., Makara, M., Kozak, G., & Urbańska, A. (2008). Abuse in childhood and mental disorder in adult life. *Child Abuse Review, 17*(2), 133-138. doi:10.1002/car.1022

Spilsbury, J. C., Belliston, L., Drotar, D., Drinkard, A., Kretschmar, J., Creeden, R., . . . Friedman, S. (2007). Clinically significant trauma symptoms and behavioral problems in a community-based sample of children exposed to domestic violence. *Journal of Family Violence, 22*(6), 487-499. doi:10.1007/s10896-007-9113-z

Stewart-Tufescu, A., & Piotrowski, C. C. (2013). Siblings exposed to intimate partner violence: Family predictors of child trauma symptoms. *International Journal of Child and Adolescent Health, 6*(3), 281-295. Retrieved from http://ezproxy.lib.uconn.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2014-01866-006&site=ehost-live

Stimmel, M. A., Cruise, K. R., Ford, J. D., & Weiss, R. A. (2014). Trauma exposure, posttraumatic stress disorder symptomatology, and aggression in male juvenile offenders. *Psychological Trauma: Theory, Research, Practice, and Policy, 6*(2), 184-191. doi:10.1037/a0032509

Stover, C. S., & Berkowitz, S. (2005). Assessing violence exposure and trauma symptoms in young children: A critical review of measures. *Journal of Traumatic Stress, 18*(6), 707-717. doi:10.1002/jts.20079

Turner, H. A., Finkelhor, D., & Ormrod, R. (2010a). Child mental health problems as risk factors for victimization. *Child Maltreatment, 15*(2), 132-143. doi:10.1177/1077559509349450

Turner, H. A., Finkelhor, D., & Ormrod, R. (2010b). Poly-victimization in a national sample of children and youth. *American Journal of Preventive Medicine, 38*(3), 323-330. doi:10.1016/j.amepre.2009.11.012

Turner, H. A., Shattuck, A., Finkelhor, D., & Hamby, S. (2015). Polyvictimization and youth violence exposure across contexts. *Journal of Adolescent Health,* doi:10.1016/j.jadohealth.2015.09.021

U.S. Department of Health and Human Services, Agency for Children, Youth and Families. (2007). *Child maltreatment report*. (HE23. 1018:007).

U.S. Department of Health and Human Services, Administration for Children and Families, Children's Bureau. (2008). *Child Maltreatment 2010*. Washington, DC: Author.

Völkl-Kernstock, S., Huemer, J., Jandl-Jager, E., Abensberg-Traun, M., Marecek, S., Pellegrini, E., . . . Skala, K. (2016). Experiences of domestic and school violence among child and adolescent psychiatric outpatients. *Child Psychiatry and Human Development, 47*(5), 691-695. doi:10.1007/s10578-015-0602-7

Walsh C, MacMillan HL, Jamieson E (2003). The relationship between parental substance abuse and child maltreatment: findings from the Ontario Health Supplement. *Child Abuse and Neglect, 27*, 1409–1425.

Welfare, H., & Hollin, C. R. (2012). Involvement in extreme violence and violence-related trauma: A review with relevance to young people in custody. *Legal and Criminological Psychology, 17*(1), 89-104. doi:10.1111/j.2044-8333.2010.02002.x

Wolock, I., Sherman, P., Feldman, L. H., & Metzger, B. (2001). Child abuse and neglect referral patterns: A longitudinal study. *Children & Youth Services Review, 23*(1), 21-47. doi:10.1016/S0190-7409(00)00126-2

Table 1. *Sample Demographics (N=238)*

Characteristics	*n* (%)
Gender	
Male	117 (49)
Female	121 (51)
Age at Index Allegation	
0-8	119 (50)
9-18	97 (41)
19-28	18 (8)
Ethnicity	
African American	60 (25)
Asian	4 (2)
Latino	37 (16)
Multiracial	11 (5)
White	102 (43)
Not Provided	24 (10)

Table 2. *Allegation Types & Psychiatric Diagnoses for the Overall Sample (N=238)*

	n (%*yes*)
Allegation Types	
Physical Abuse	88 (37)
Emotional Abuse	19 (8)
Sexual Abuse	15 (6)
Physical Neglect	222 (93)
Emotional Neglect	128 (54)
Educational Neglect	24 (10)
Medical Neglect	20 (8)
Moral Neglect	7 (3)
Psychiatric Diagnoses	
PTSD	14 (6)
Depression	19 (8)
Aggressive Behavior	18 (8)
Mood Disorder	11 (5)
Anxiety	15(6)

Table 3. *Child Participant Demographics by Poly-victimization Clusters (N=238)*

Characteristics	Cluster 1	Cluster 2	Cluster 3	Cluster 4
	n (%)	*n* (%)	*n* (%)	*n* (%)
Gender				
Male	38 (54)	45 (49)	20 (44)	14 (44)
Female	32 (46)	46 (51)	25 (56)	18 (56)
Age at Index Allegation				
0-8	43 (63)	45 (51)	21 (47)	10 (31)
9-18	21 (31)	39 (44)	20 (44)	16 (50)
19-28	4 (6)	5(6)	4 (9)	6 (19)
Ethnicity				
African American	16 (23)	23 (25)	14 (31)	7 (22)
Asian	4 (6)	0 (0)	0 (0)	0 (0)
Latino	9(13)	8 (9)	8 (18)	12 (38)
Multiracial	1 (1)	6 (7)	3 (7)	1 (3)
White	34 (49)	44 (48)	13 (29)	11(34)
Not Provided	6 (9)	10 (11)	7 (16)	1 (3)
TOTAL *N*	70	91	45	32

Table 4. *Allegation Types & Psychiatric Diagnoses by Cluster (N=238)*

	Cluster 1 *n* (%*yes*)	Cluster 2 *n* (%*yes*)	Cluster 3 *n* (%*yes*)	Cluster 4 *n* (%*yes*)
Allegation Types				
Physical Abuse	7 (10)	18 (20)	32 (71)	31 (97)
Emotional Abuse	1(1)	2 (2)	6 (13)	10 (31)
Sexual Abuse	1(1)	0 (0)	5 (2)	9 (28)
Physical Neglect	55 (79)	90 (99)	45 (100)	32 (100)
Emotional Neglect	3 (4)	63 (69)	34 (76)	28 (88)
Educational Neglect	1 (1)	3 (3)	7 (16)	13 (41)
Medical Neglect	1 (1)	5 (6)	3 (7)	11 (34)
Moral Neglect	1 (1)	1 (1)	3 (7)	2 (6)
Psychiatric Diagnoses				
PTSD	3 (4)	4 (4)	4 (9)	3 (9)
Depression	1(1)	4 (4)	3 (7)	11 (34)
Aggressive Behavior	3 (4)	4 (4)	4(9)	7 (22)
Mood Disorder	0 (0)	2 (2)	4(9)	5 (16)
Anxiety	1 (1)	5 (6)	4(9)	5 (16)
Suicidality	21 (31)	2 (2)	5 (16)	0 (0)
Self-Injurious Behaviors	4 (6)	1(2)	5(16)	0 (0)
TOTAL *N*	70	91	45	32

Table 5. *Forms of Caregiver Impairment for Parent Sample and Clusters (n=100)*

	Full Sample	Cluster 1	Cluster 2	Cluster 3	Cluster 4
	n (%*yes*)	*n* (% *yes*)	*n* (%*yes*)	*n* (%*yes*)	*n* (%*yes*)
DCF Contact as Minor	40 (40)	14 (37)	14 (41)	8 (50)	4 (33)
Criminal Record	53 (53)	20 (53)	17 (50)	10 (63)	6 (50)
Violent History	23 (23)	9 (24)	6 (18)	5 (31)	3 (25)
Substance Abuse	39 (39)	12 (32)	11 (32)	10 (63)	6 (50)
Mental Illness	48 (48)	17 (45)	16 (47)	7 (44)	8 (67)
TOTAL *N*	100	38	34	16	12